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ABSTRACT

Research has shown that nonverbal variables have a strong influence on classroom communication. This paper examines the way in which communication in the classroom is affected by the variables of distance, physical environment, facial expression, vocal cues, posture and gestures, touch, use of time, physical attractiveness, and dress. Each variable is separately discussed in terms of research into its actual and potential effects. The paper then calls for an approach to the study of classroom communication in which such variables are isolated and individually investigated. (GW)

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NONVERBAL COMMUNICATION IN THE CLASSROOM: AN OVERVIEW

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Abstract

This paper argues that nonverbal variables have a strong influence on classroom communication and should, therefore, be studied carefully and systematically. It is suggested that classroom interaction is affected by the communicators' use of distance, physical environment, facial expression, vocal cues, posture, gestures, touch, time, physical attractiveness, and dress. Each of these variables is separately discussed in terms of its actual and potential effects.

NONVERBAL COMMUNICATION IN THE CLASSROOM: AN OVERVIEW

Charles M. Galloway, one of the most prolific writers on the subject of nonverbal communication in the classroom, views educators as "multi-sensory organisms who only occasionally talk." Recently he wrote:

> For more than two decades, teacher behavior research focused on the significance of verbal communication patterns. Potential studies of the teacher's nonverbal influence were considered unnecessary and irrelevant. Research studies of the past few years have changed this view, and we are beginning to recognize the importance of nonverbal behaviors between teacher and student. Nonverbal influences do seem to have an effect on the nature and quality of classroom interaction. (Galloway, 1974: p. 305.)

The importance of nonverbal communication in the

classroom may be even greater than he implies. Harrison (1965) reported that in face-to-face communication a maximum of thirty-five percent of the social meaning is transferred in the verbal message. Mehrabian (1973), based on his research, stated that the verbal content of a message contributes only seven percent of the total message.

Evans (1969) studied the communicative behavior of biology teachers and concluded that a majority of their behavior related to content development and classroom management was nonverbal. Balser (1969) also studied the behavior of biology teachers, though his work is generalizable to any subject area, and reported that approximately seventy-five percent of classroom management behavior was nonverbal.

These studies cast doubt on the assumption made by some interaction analysis researchers (Flanders, 1960; Withall, 1949) that teacher behavior is adequately represented by verbal behaviors.

Smith (1961) noted that teachers' nonverbal behaviors "are taken by pupils as signs of the psychological state of the teacher."

Rosenthal and Jacobson's Teacher Expectations for the Disadvantaged suggested that, through nonverbal behavior, teachers' expectations for the progress of their students became self-fulfilling prophecies.

Nonverbal communication in the classroom occurs through the use of distance, physical environment, facial expression, vocal cues, posture, gestures, touch, time, physical attractiveness, and dress. Each will be separately discussed.

Distance

Horizontal Distance. The horizontal distance between teacher and students appears to be of consequence. Schwebal and Cherlin (1972) found that elementary school children seated in the front row were more attentive and were evaluated more positively by their teachers than were students who sat in the middle and back rows.

Edward T. Hall's categories can lend insight. Hall (1966) specifies four distance zones which are commonly observed by North Americans. The first is intimate distance, which runs from actual touching to eighteen inches. As its name would imply, this zone is reserved for those with whom one is intimate. At this distance the physical presence of another is overwhelming. Intrusion into one's intimate space is such an unsettling experience that police interrogators sometimes use this technique to break down a suspect's composure. Similarly, teachers who violate students' intimate space are likely to be perceived as intruders.

Personal distance runs from eighteen inches to four feet. This is the distance at which good friends are likely to interact. This would also seem to be the most appropriate distance for a teacher and student to discuss personal affairs such as grades, conduct, private problems, etc.

Social distance exists from four to twelve feet. Its close phase seems to be an appropriate distance for casual friends and acquaintances to interact. The far phase of social distance requires that a listener resort to visual cues. Without raising the voice level to a point which only

formal sayables are possible, it is difficult for a person to be heard at ten or twelve feet. The listener therefore needs to look up and watch the eyes and lips in order to receive a complete message.

The outermost zone extends outward from twelve feet. At public distance a speaker becomes formal. He lectures rather than converses and his language, tone of voice, and gestures support his formal posture. Some teachers maintain this distance between themselves and their students. As a result, their classes are generally formal, and some students may feel that the teacher is cold and distant.

Hall's system for the categorization of distance can constructively be used to lend insight into the nature of various student-teacher interactions. It should be noted, however, that appropriate distance is determined by a myriad of variables including the situation, the nature of the relationship, the topic of conversation, and the physical constraints which are present.

Vertical distance. The effects of vertical distance in the classroom have not received any systematic attention. Nonetheless, there are some generalizations which can be made. The vertical distance between communicators is often indicative of the degree of dominance and subordinance in the relationship. People are affected by literally looking up at or looking down on another person.

This author, in an attempt to have teachers understand the nuances of vertical distance, has devised an activity

which he has used in communication workshops designed for educators. The workshop participants are asked to pair up and then to role play a discussion in which a student wants a grade changed and the teacher does not want to change it. They begin the conversation seated opposite each other, several minutes later the teacher stands while the student remains seated, and a few minutes after that the teacher stands on a chair while the student continues to remain seated. When the activity is later debriefed and discussed, those who played teachers reported that as they stood higher over the students they became more and more dominant, agressive, and authoritarian. Those who played students report that they became increasingly intimidated as the teacher rose above them.

The implications are that vertical distance can be used by teachers both as a tool and as a weapon. Teachers, and especially those who work with small children, should realize that students will interact most comfortably with a teacher when they are both on the same vertical plane. Used in this way, an understanding of vertical distance can become a tool for improved teacher-student communication. On the other hand, the disciplinarian can put this information to use in order to gain psychological advantage over an unruly student.

Physical Environment

Considering how essentially different college is from kindergarten, it is surprising to note how little difference

exists between a college classroom and a kindergarten classroom. Often, these rooms can be distinguished only by the size of the students' chairs.

Robert Sommer provides us with perspective:

> The present rectangular room with its straight rows of chairs and wide windows was intended to provide for venilation, light, quick departure, ease of surveillance, and a host of other legitimate needs as they existed in the early 1900's. Before the advent of the electric light, it often required legislative action to compel economy-minded school boards to provide adequate fenestration. The typical long narrow shape resulted from a desire to get light across the room. The front of each room was determined by window location, since pupils had to be seated so that window light came over the left shoulder. Despite new developments in lighting, acoustics, and structure, most schools are still boxes filled with cubes each containing a specified number of chairs in straight rows. (Sommer, 1969: pp. 98-99.)

The entire question of the influence of the classroom physical environment on student and teacher behavior remains relatively unexplored. Some research, however, has been undertaken and can provide us with some initial data on student participation in varying classroom environments.

Sommer (1969) selected six different types of classrooms for his study. He sought to compare the amount of student participation in the varying classrooms and to analyze the particular aspects of participatory behavior in each type. The different types of rooms included seminar rooms with movable chairs - usually arranged in the shape of a horse-shoe; laboratories which represented an extreme in straight row seating; one room which was windowless, and one with an entire wall of windows.

A distaste for the laboratory rooms and the windowless rooms was demonstrated through several attempts by instructors and students to change rooms. Comparisons showed that in seminar rooms fewer people participated, but for longer periods of time. There were no differences between open and windowless rooms with respect to participation behavior.

When seminar rooms were analyzed separately, Sommer noted that most participation came from those students seated directly opposite the instructor. Students avoided the two chairs on either side of the instructor and when a student did occupy one of those seats he was generally silent throughout the entire period.

In straight row rooms the following observations were made: (1) Students within eye contact of the instructor participate more. (2) There is a tendency for more participation to occur in the center sections of each row and for participation to decrease from the front of the room to the rear. (3) Participation decreases as class size increases.

Sommer's findings were supported by Adams and Biddle (1970). Their research, conducted on students from grades 1, 6, and 11, found that most student participation came from students seated in the center of the room. Sixty-three percent of the 1176 observed behaviors came from students located one behind the other down the center of the room. As the authors point out, "it is now possible to discriminate

an area of the classroom that seems to be literally and figuratively the center of activity."

J. J. Thompson (1973: p. 36) contradicts these findings. He says: "Current studies show that with the exception of the front row, students along the side walls participate more than any other group of students in the room." Thompson, however, fails to cite these studies and this author has never seen any evidence which would lend support to Thompson's claim.

How can this information be of use to a teacher? It seems that a student sends a message about himself by where he chooses to sit. A teacher may assume that a student who seats himself in the front row wants to become involved. Teachers should be careful, however, not to play to these students at the expense of the rest of the class. Students who seat themselves at the back of the room want to maintain maximum distance between themselves and the teacher. The extent to which a teacher will seek to involve these students is likely to be the result of an individual's own pedagogical decision. Some teachers will be content with minimal disruption from the rear, while others will assume that these are the students who need the most help.

Some teachers may want to arrange students' desks in a circle or open square configuration. Sommer reported that these arrangements result in greater participation but from fewer students. As a result of informal study, this author has concluded that the circle arrangement results not

only in greater participation, but also in wider participation than the traditional straight row seating arrangement. It also seems safe to say that a teacher is perceived as less intimidating when he is seated in a circle with the students rather than behind the formal and imposing symbol of his large desk. White (1953) found that the mere presence or absence of a desk in a doctor's office affects the extent to which a patient feels at ease. With the desk separating the doctor and patient, only ten percent of the patients were perceived to be at ease; when the desk was removed, the percentage of patients at ease increased to fifty-five percent.

The head position at a table seems to result in perceived authority. In simulated jury selection studies, a trend was noted to elect as foreman the persons who sat at either of the head positions. (Thompson, 1973: p. 50.) Since these positions seem to possess a built-in image booster, some classroom experimentation might prove to be interesting. Perhaps a teacher could assign head positions to those students who might most benefit from an opportunity to have leadership thrust upon them.

Admittedly, the availability of research in this area is scant. Also, as Robert Sommer has pointed out: "Spatial freedom will not insure educational innovation. Presented to an unsure and inadequate teacher, it will result in greater efforts at discipline in order to keep people together and 'on the same track' once the fixed rows of chairs, which greatly aided in discipline, are eliminated. The spatial

freedom will only help those teachers already committed to individual or small group instructions or willing to try it." (Sommer, 1969: p. 105.)

James J. Thompson has pleaded for more information:

> Where is there evidence that most subjects are best taught to most students in essentially the same way? That students learn best when seated at desks? That a rectangular classroom is the best spatial configuration for group learning? That uniform blocks of time serve each subject equally well? That doors and windows are in the best possible places? That the color on the walls, the tiles on the floor, the shape of the desks, or the height of the ceiling have no direct bearing on what and how students perform? These and countless other unfounded assumptions were made by the planners of most schools and classrooms. That teachers and students have functioned under these conditions merely points up their extraordinary adaptability. That these conditions frequently do affect the teacher's work and his students' progress is beyond reasonable doubt. (Thompson, 1973: pp. 33-34.)

Facial Expression

Facial expression is used by teachers and students to form impressions of one another. A cold hard stare has long been in the repertoire of teacher's weapons. Similarly, a smile can be a useful tool in reinforcing desired student behaviors. A teacher can also use student's facial expressions as a valuable feedback device. When, for example, delivering a lecture a teacher should use student's expressions to determine whether or not to slow down, speed up, or in some way modify his presentation.

Eye behavior seems to be of particular importance and is generally used by students to indicate whether or not they are open to communication. This can be observed when

a teacher asks the class a question; students who think they know the answer will generally look at the teacher, while students who do not will usually try to avoid eye contact.

Visual contact with the instructor appears related to student comprehension. Jecker, Maccoby, and Breitrose (1965) isolated visual cues given by students which seemed associated with comprehension of lecture content - duration of looking at the instructor, frequency and speed of looking away and back, blinking, brow raising and furrowing, etc. The authors report that teachers trained to recognize such cues became more accurate in their judgements of student comprehension than did untrained teachers.

The results of a study by Breed, Christiansen, and Larson (1972) suggest that visual contact with the instructor increases attentiveness, which in turn makes for better grades. Students in groups who were looked at almost continuously by the lecturer received higher quiz scores. Those who were never looked at rated the lecturer as less relaxed and less structured.

Exline (1971) reports that, in response to a questionnaire, college students said they thought that they would be more comfortable with another who, when speaking, listening, and sharing mutual silence, looked at them fifty percent of the time as opposed to one hundred percent of the time or not at all.

Exline and Eldridge (1967) reported that a speaker who looked at an audience was perceived as much more "favorable and confident" than the same person delivering the identical

message while avoiding eye contact.

LeCompte and Rosenfeld (1971) found that a male experimenter who looked at subjects while reading instructions was rated as "slightly less formal and less nervous" than an experimenter who did not look up while reading.

Similarly, a study reported in The Speech Teacher provided documentation for the importance of eye contact in a public speaking situation. Beebe (1974) reported that an increase in the amount of eye contact generated by a speaker significantly increased the speaker's credibility in terms of qualification and honesty factors.

Research dealing with the effects of facial expression and eye behavior has been enlightening and further investigation should be encouraged. On the basis of what is already known, one can safely say that these variables account for some communication in the classroom.

Vocal Cues

We are generally aware of some of the common uses of vocal cues. People indicate the ends of declarative sentences by lowering voice pitch and the ends of questions by raising it. The vocal message can contradict the verbal one and, when done consciously, is considered to be an indication of sarcasm. Vocal cues play a prominent part in people's determination of whether or not someone is lying to them (Wiemann and Wiemann, 1975: p. 14).

Mehrabian (1973) conducted a program of research during which he used single words, previously rated as positive,

negative, or neutral, and presented them to listeners utilizing either positive or negative vocal tones. He concluded that listeners' perceptions of the attitude of a speaker were influenced seven percent by the verbal message and thirty-eight percent by the vocal tones which were used. While it is not known whether these estimates would hold up for utterances which are longer than one word, these results do hint at the importance of the role which vocal cues play.

Vocal cues have been studied in relation to judgements of speakers' characteristics and judgements of speakers' emotions, but the research which is most germane to the concerns of the classroom teachers deals with the effects of vocal cues upon listerers' comprehension of the spoken material.

Woolbert (1920), in an early study, found that large variations of rate, force, pitch and quality produced higher levels of audience retention than did the absence of these variations.

Glasgow (1952), using prose and poetry, compared "good intonation" with "mono-pitch." Following exposure to these different conditions, listeners were administered multiple-choice tests which revealed that "mono-pitch" reduced comprehension by more than ten percent for both prose and poetry.

In a similar vein Diehl and McDonald (1956) found that simulated breathy and nasal qualities significantly interfered with listeners' comprehension.

Based on these findings and others, one may reasonably

conclude that serious investigation of the effects of teachers' vocal cues could result in useful pedagogical information.

Posture and Gestures

Posture and gestures are used to indicate attitudes, status, affective moods, approval, deception, warmth and other variables related to classroom interaction. A student who is slouching in his seat sends a very different message, than the student who leans forward or sits erect.

Ekman and Friesen (1967) have suggested that posture conveys gross or overall affect (liking), whereas specific emotions are communicated by more discreet facial and body movements.

Cognitively, gestures operate to clarify, contradict, or replace verbal messages. Gestures also serve an important function with regard to regulating the flow of conversation. For example, if a student is talking in class, single nods of the head from the teacher will likely cause that student to continue and perhaps elaborate. On the other hand, many successive nods of the head will probably cause the student to speed up his delivery or conclude his remarks.

Empirical research concerning the effects of posture and gestures in the classroom would likely reveal a wealth of practical information. This new knowledge could be used in the analysis and criticism of pedagogy and in teacher education. The result would be an improvement in teacher-student communication.

Touch

Tactile communication can serve a useful function in the classroom. Workers in hospitals and nursing homes have long been aware of the therapeutic value of a sympathetic touch. There is empirical support for this point of view. Working with psychiatric nurses, Aguilera (1967) found that nurses could elicit more verbal interaction when they touched the patients than when they did not. Pattison (1973) found that undergraduate females who were touched during an initial counseling interview engaged in more self-exploration than those who were not touched. These findings indicate a relationship between touching and talking, and support the notion that tactile closeness facilitates psychological, interpersonal closeness.

There is some scant evidence that touching behaviors can actually increase learning. One recent investigation (Kleinfeld, 1973) has shown that when teachers employed such behaviors as smiling, touching and close body distance, small children "tended to learn significantly more." Warm touching behaviors, however, become less appropriate as students grow older. Still, with older students, hand shaking and an occasional pat on the back could prove effective. Future experimentation should seek to determine the salience of this variable.

Time

Though this has not been studied, per se, it seems safe to say that a teacher's use of time has some nonverbal

communicative value. Consider an elementary teacher who tells his students that math is as important as history, yet devotes much more classroom time to history. His students can probably tell which subject he really thinks is more important. A college teacher may tell his students that he wants to get to know them better, but if he schedules only one office hour per week, they are likely to be more influenced by the latter message.

A teacher also communicates by the extent to which he is punctual for class and by the formality or informality of the way in which he schedules appointments ("See you in about an hour" versus "Meet me at 2:20.")

Physical Attractiveness

The physical attractiveness of students and teachers does serve to influence classroom interaction. This variable, however, is probably less deserving of attention than some others, since it is not easily manipulated by communicators. Various studies have explored the effects of personal attractiveness. Aronson and Mills (1965) concluded from their research that a speaker will be more effective in influencing audience opinions if he is physically attractive. Haiman (1949) reported that physical attractiveness was highly correlated with speaker success. In an educational context, Singer (1964) found a positive relationship between attractiveness and grade point average. Perhaps the most practical use of this research for educators lies in the admonition that they need to be aware of these tendencies

and should strive to avoid favoring attractive students.

Dress

Does it matter what a teacher wears to class? This question has been all but ignored by researchers in education and communication. In an attempt to address this issue, this author recently conducted an investigation designed to uncover the potential effects, if any, of teachers' dress upon students' perceptions of teachers' characteristics.

Two sets of stimulus photographs were prepared. One set was comprised of three photographs of a male teacher; the other was comprised of three photographs of a female teacher. In each set, the models were shown from the neck down in relatively informal, moderate, and formal attire.

A measuring instrument was employed which allowed subjects (university students) to look at the stimulus photographs and then to rate each of the perceived teachers on five point rating scales covering ten positive characteristics of teachers.

Fifty subjects responded to the photographs of the male teacher; another fifty subjects rated the photographs of the female teacher.

The significant differences obtained in this study suggest that a male teacher who dresses very informally would enhance the probability of being perceived as sympathetic toward students' problems, friendly, and flexible. The male teacher when dressed in the moderate style was judged to be most

stimulating and clear. The most formally dressed male teacher was perceived to be most knowledgable, organized and well-prepared for class.

The female teacher who dressed very informally was perceived as very fair, sympathetic toward students' problems, enthusiastic, friendly, flexible, and stimulating. The female teacher when moderately dressed was judged to be most clear. The female teacher, when dressed in the most formal style, was thought to be well organized and well-prepared for class.

These results lead to the conclusion that teachers' style of dress does have some impact, and is therefore yet another variable which teachers and classroom interaction researchers need to consider.

Conclusion

This paper has suggested that nonverbal communication in the classroom occurs through the use of distance, physical environment, facial expression, vocal cues, posture, gestures, touch, time, physical attractiveness, and dress. Subdividing the subject in this way implicitly suggests that the author feels nonverbal communication in the classroom ought to be studied by looking at one variable at a time.

To be sure, there are shortcomings to such an approach. Clearly isolating a single variable often results in a level of artificiality and, in fact, a distortion of reality. Some scholars cogently argue that we can only come to understand a complex phenomenon by viewing it as a Gestalt. There is merit

to their argument, but given our present state of ignorance, this author is more inclined to agree with Mark Knapp (1972) who writes that "... it is necessary to divide the process and study the component parts to understand them better - so that when we develop methods for studying more complex phenomena, we will know a little more about the nature of the parts we are putting together." (p. 168.)

It is therefore felt that a sensible approach to the study of communication in the classroom entails the investigation of one variable at a time in order to discover which are salient. Only when this has been done can the work of theory building proceed to account for and categorize the component parts accurately and meaningfully.

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